



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/782,888

02/23/2004

Yasunori Yokota

YOKOTA17

5983

1444

7590

09/26/2005

BROWDY AND NEIMARK, P.L.L.C.
624 NINTH STREET, NW
SUITE 300
WASHINGTON, DC 20001-5303

EXAMINER

AMIRI, NAHID

ART UNIT

PAPER NUMBER

3679

DATE MAILED: 09/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/782,888	YOKOTA, YASUNORI	
	Examiner	Art Unit	
	Nahid Amiri	3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>23 February 2004</u> . | 6) <input type="checkbox"/> Other: _____ |

mu

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, **the major body has a thread bore to connect the major body to another counterpart** of claim 5, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claim 1 is objected to because of the following informalities: claim 1, line 11, “on to “ should be changed to --toward--, and claim 7, line 5, “an mouth” should be changed to --a mouth--. Appropriate correction is required.

Art Unit: 3679

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

DPS
Claim 10 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 10 purportedly is drawn to a ball-stud joint (see preamble) but only recites structure of a tool. It is unclear how a tool apparatus used to ~~form~~^{form} the joint serves to structurally define and limit the joint itself.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4 and 6-10 to limited extend understandable and definite are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (Fig. 10) in view of US Patent No. 6,776,552 B2 Marunaka.

In regard to claim 1: Applicant acknowledges as prior art (Fig. 10) (page 2, lines 11-25) a ball-stud joint composed of a major body (43) and a ball stud (41) connected to the major body (43), wherein the ball stud (41) is comprised of a ball (47) fit for pivoting movement into a ball socket (50) recessed in the major body (43), a stud (41) having an end (E) (see attachment) made integrally with the ball (47) and another plain end (E') (see attachment) adapted to be subjected to a riveting operation to joint the stud (45) with any counterpart (42), a flange (44) formed integrally around the stud (45) to provide a surface coming into abutment against the counterpart (42). Applicant's admitted prior art does not disclose the flange has a sloping side extending

Art Unit: 3679

radially outwardly from a flat surface facing the ball to an outside periphery of the flange. Marunaka teaches (Fig. 1) the flange (shoulder) (27) of the stud has a sloping side extending radially outwardly from a flat surface facing the ball (4) to an outside periphery of the flange (27). It would have been obvious to one of ordinary skill in the art at the time of invention was made to modify the flange of applicant's prior art to have sloping angle as taught by Marunaka in order to seat the stud (pin) (21) to an opening of another in conforming manner.

In regard to claims 2-4: Applicant's admitted prior art disclosure does not disclose the sloping side is made in $S \geq 1.0$ mm and $25 \leq \theta \leq 50$ in which (S) denotes a widthwise distance of the flange ranging from the flat surface to a level where the sloping side meets the outside periphery of the flange, and θ denotes an angle included between the flat surface and the sloping side of the flange; the angle θ included between the flat surface and the sloping side is at 45 degree; the widthwise distance (S) of the flange ranging from the flat surface to the level where the sloping side meets the outside periphery of the flange is determined to $1.0 \text{ mm} \leq S \leq 2.0 \text{ mm}$; and the widthwise distance (S) is preferably in a range of $1.2 \text{ mm} \leq S \leq 1.5 \text{ mm}$. The Applicant's admitted prior art does not provide the desired centering function. The examiner finds that it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the size and angle of the shaped area since it was a known in the art to do so to provide centering in an assembly process.

In regard to claim 6: Applicant's admitted prior art discloses (Fig. 10) a retainer ring ((R) (see attachment) to keep the ball stud in connection when the major body (43) is installed between an opening of the ball socket (50) in the major body (43) and an outside surface of the ball (47) in a way held at the opening in the major body (43).

In regard to claim 7: Applicant's admitted prior art (Fig. 10) the ball stud (61) has a retainer (74) made integrally on the stud (65) between the flange (64) and the ball (67), providing an annular groove (71) between the retainer (74) and the end surface of the flange (75) to fit over an mouth of a dust proof cover which is not shown.

In regard to claim 8: It should be noted that it is the patentability of the product that is to be determined irrespective of only process steps being recited. Thus, it is of little consequence as

Art Unit: 3679

to how the riveting operation is performed when the prior art possesses the recited structure of the joint, itself. Nevertheless, Applicant admitted prior art (Fig. 10) discloses a riveting operation to form a rivet head (66) on the plain end of the stud (65) against the counterpart (62) is carried out while the dust proof cover is not shown is remained fit in the groove (71) formed on the stud (65) of ball stud (61).

In regard to claim 9: Applicant's admitted prior art discloses the claimed invention except for the flange on the ball stud is made in such configuration that is circular in cross section and raised on the top thereof into a frustum of right circular cone to provide the sloping side. Since applicant's admitted prior art does not provide the dust proof. The examiner finds that it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the flange of the ball stud with circular cross section and raised on the top thereof into a frustum of right circular cone to provide the sloping side, since it was a known in the art to do so to provide a sloping side for capturing a dust proof.

dpS In regard to claim 10: Applicant should note that it is the patentability of the recited product that is to be determined and not how it is made or the apparatus used to make it. As advanced for the rejection of claim 1, the applied prior art meet the limitations of the ^{joint}join, itself.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of Marunaka as applied to claims 1-4 and 6-9 above, and further in view of US Patent No. 3,253,330 Davies and US Patent No. 6,886,235 B2 Suzuki et al.

In regard to claim 5: Applicant's prior art and Marunaka disclose the claimed invention except the major body is made steel and has threaded bore to connect the major body of another counterpart. Davies teaches (Fig. 10) (column 2, lines 14-18) the major body (20) is made from steel and has threaded bore to connect the major body of another counterpart. It would have been obvious to one of ordinary skill in the art at the time of invention was made to form the major body of Applicant's admitted prior art from steel as taught by Davies in order to have material softer than hardened ball; and also to provide the major body of Applicant's prior art

Art Unit: 3679

with threaded bore as taught by Suzuki et al., in order to connect the major body to another part of the ball joint assembly.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent No. 5,609,433 Pazdired et al.

US Patent No. 6,145,181 Murata et al.

US Patent No. 6,783,136 B2 Pronsias Timoney et al.

US Patent No. 2,631,044 Booth

US Patent No. 6,186,693 B1 Cloyd et al,

US Patent No. 6,746,173 B2 Ochiai et al.

US Patent No. 6,298,570 B1 Maughan et al.

Pazdired et al., teach a ball joint with dust proof, Murata et al., teach a ball joint having a housing with dust proof, Pronsias Timoney et al., teach a joint ball having a lower bearing, Booth teaches universal joint having a upper bearing, Cloyd et a., teach a joint ball with upper cover, Ochiai et al., teach a ball joint having a lower bearing, and Maughan et al., teach a ball joint with lubrication port.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nahid Amiri whose telephone number is (571) 272-8113. The examiner can normally be reached on 8:30-5:30. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (571) 272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

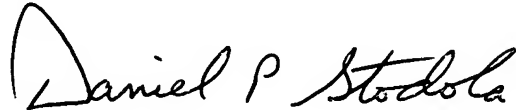
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

Art Unit: 3679

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Nahid Amiri
Examiner
Art Unit 3679
August 12, 2005



DANIEL P. STODOLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600